

MISSOURI. Conservationist

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Conservation Priorities and Opportunities

What a glorious fall! I hope everyone has had the chance to get outside to enjoy the many outdoor opportunities our great state of Missouri has to offer its citizens and visitors.

In the past few weeks, I have traveled throughout the Northwest and Ozarks portions of Missouri — two vastly different and intriguing landscapes. I am always struck by how unique Missouri is and the variety of landscapes found throughout the state. Soybean harvest was in full swing, reminding me how important our state's agriculture industry is to the state's economy. Scattered throughout the farmlands were neat and tidy farmsteads with brilliant flame-red and orange maples glowing like beacons across north Missouri. Equally striking views were observed in my travels across the Missouri Ozarks, where the hills and hollers were aglow with the colors of the many species of hardwood trees, contrasted by the spires of short-leaf pine. Running through this vivid landscape were the sparkling waters of Alley and Blue springs and the silver ribbons of the Current and Jacks Fork rivers. These natural gems are reminders that Missouri has significant natural resources. Our forests and woodlands, streams and rivers, and vast productive farmlands are vital to Missourians' cultural, emotional, and economic health.

Travels across Missouri always compel me to think about the future of Missouri's natural treasures. Also, there is nothing like a life-changing event such as the birth of one's first grandchild and grandson. Such events spur one's thoughts about that child's future, especially as they relate to adventures in Missouri's great outdoors. What will that child get to experience in the natural world? What is our generation's responsibility to ensure the citizens of the next generation have abundant forest, fish, and wildlife resources?

We know Missouri has much to offer in natural resources. Our state is blessed with fertile soils, abundant fish and wildlife resources, sparkling rivers, streams and springs, two mighty rivers, and productive forests and woodlands. More importantly, Missourians have consistently shown they are committed to natural resource conservation. However, many Missourians have told me they know the 21st century will present many pressures and many challenges for our state's vital natural resources.



This citizen awareness is shared by your Conservation Department.

Your Conservation Department acknowledges it has the great responsibility of ensuring Missourians enjoy abundant forest, fish, and wildlife resources now and in the future. To that end, the Department has invested significant effort with partners, landowners, and citizens to plan for sustaining the state's forest, fish, and wildlife resources for today and tomorrow. The collaborative planning efforts have

identified priority places where habitats and landscapes will provide the best opportunity to sustain grasslands and prairies, forests and woodlands, and rivers and streams so that Missourians will continue to have the opportunity to enjoy these natural treasures.

By working with landowners, outdoor enthusiasts, and the agriculture community, we, together, can invest conservation resources in a manner that our children will be able to have great outdoor experiences. They will hear the whistle of waterfowl wings and see a smallmouth bass jump out of the water as they paddle a canoe down a clear stream. By investing conservation resources in priority places, they will have the opportunity to see that magnificent white-tailed buck as he slips through the autumn woods or hike to majestic views in Missouri's varied landscape.

Yes, in my nearly four-decade career in natural resource conservation, I have noticed how the world and our state have changed. However, Missouri's future is very bright because Missourians have demonstrated time and again they care deeply about their resources. Knowing this, I have great hope that my first grandson will have many great outdoor adventures in Missouri (and did I mention I have our first float, fishing, and hunting trips planned?).

Thank you, Missourians, for your commitment to conserving and wisely investing in your forest, fish, and wildlife resources for our citizens of today and tomorrow.

Tom Draper, deputy director

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Photograph by Noppadol Paothong.

📷 17-40mm lens • f/8 • 1/50 sec • ISO 400

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WHAT IS IT?

Our photographers have been busy exploring the intricacies of the Missouri outdoors. See if you can guess this month's natural wonder. The answer is revealed on Page 8.



BIRTHDAY BUGLES

Last week was my birthday (one of those big milestone birthdays!), and my husband asked me what I wanted to do. I told him I wanted to go to Peck Ranch and hopefully see some elk.

We drove through Peck Ranch Saturday afternoon (Oct. 4) and saw a turkey. Okay, I've seen turkeys, so no big deal. We went back to Peck about a half hour before sunset and parked the truck at Field 55. Within a couple of minutes an elk cow walked across the road and started grazing. Okay, birthday wish complete, I saw an elk in the wild in Missouri! But then a couple of minutes later a young bull walks out in the field and bugles! Now I've got goose bumps. A few minutes later, out walks a 5x5 bull and about 25 cows and calves. Awesome! We heard about four different bulls bugling. Can't get any better than this!

So we watched this elk show and took pictures until just before sunset and started driving to the exit. We saw one more elk cow and 65 whitetail deer.

In Field 48, we saw a badger. My husband and I have lived in Missouri all our lives, and we are both now 60, and neither of us had ever seen a badger. At first we thought it was a huge groundhog, but the view through the binoculars told us otherwise.

Sunday morning, we drove back out to Peck and got there at sunrise. Saw two young bulls at Field 55, they walked across the road by the wood line, then, as if choreographed, they started sparring. We had the windows down on the truck and were close enough to hear their antlers clanking. They played for probably a minute, then both lifted their heads and looked at us as if they were saying, "Did you enjoy the show?"

We didn't see as much wildlife as Saturday evening, but we did see about 30 whitetails, four bull elk, and one cow — and heard more bugling. The whole experience was absolutely awesome. There is no other word to describe the experience. Thank you to everyone for making this experience possible in the state of Missouri. This is one birthday trip I will never forget.

Rita Hawkins, via Internet

FALL FOR MUSHROOMS

My husband and I were inspired by the article in your magazine about fall mushroom hunting ["Agent Notes"; October]. We found a 5-gallon bucket of chanterelles, two 3-pound bunches of chicken of the woods, and one 3-pound bunch of hen of the woods. We deep-fried the chanterelles (like we do with morels), and they were delicious! We sautéed the chicken of the woods, again, delicious! We also used some of them to make "chicken" noodle soup — oh my, fabulous. My son thought it was real chicken. Thanks for the tip. We love fall mushroom hunting!

Marisa and Rick Ellison, Hannibal

FROM FACEBOOK

Do you have programming for scouts? I saw lots of great programs for teachers, homeschool parents, and families, but none that seemed directed at Girl Scouts or Boy Scouts.

Laura Brooks

Conservation Department: We do work with scouting programs. Go to mdc.mo.gov and click on your county to find your local outdoor skills specialists. They are your best source for local programs and offerings.

During the regular firearms season I'll be gun hunting for half the week, and the rest of the season I'll be bow hunting a bows-only area (yes, I know I have to tag any kill I get with a firearms tag). My question is, do I need to wear hunter orange if I'm bow hunting a bow-only area during the firearms season?

Joe Tool

Conservation Department: You are not required to, but we recommend it.



Reader Photo

JUST BEING NEIGHBORLY

Mark Ramsey, of Chariton County, near Salisbury, Missouri, sent this photo he captured of a deer and a quail on his land. "I was trying to get pictures of deer that night, when the quail came along," said Ramsey. "The quail started walking up to the deer, and he put his head down to take a better look at the quail. It was a pretty cool experience." Ramsey said they manage their land strictly for wildlife and have frequently tapped into the various forms of assistance provided by the Department. "We are very excited that we have two coveys of quail on the place this year, and a nice hatch of turkey," said Ramsey.



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Northeast/Kirksville: 660-785-2420

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Northwest/St. Joseph: 816-271-3100

St. Louis: 636-441-4554

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Kids' site: XplorMo.org

Missouri Conservationist: mdc.mo.gov/node/83

Missouri Department of Conservation: mdc.mo.gov

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KIDS' MAGAZINE

Six times a year we'll bring you eye-popping art, photos, and stories about Missouri's coolest critters, niftiest natural places, liveliest outdoor activities, and people who've made a living in the wild. Come outside with us and XPLOR!

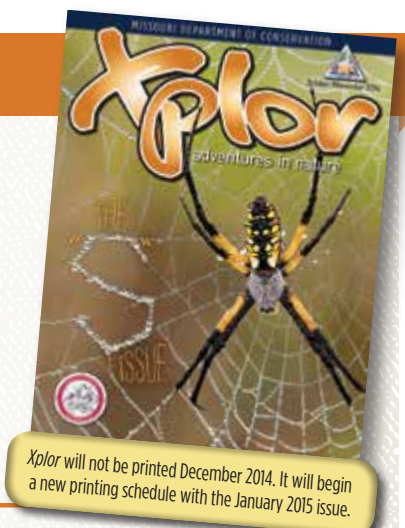
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Xplor will not be printed December 2014. It will begin a new printing schedule with the January 2015 issue.

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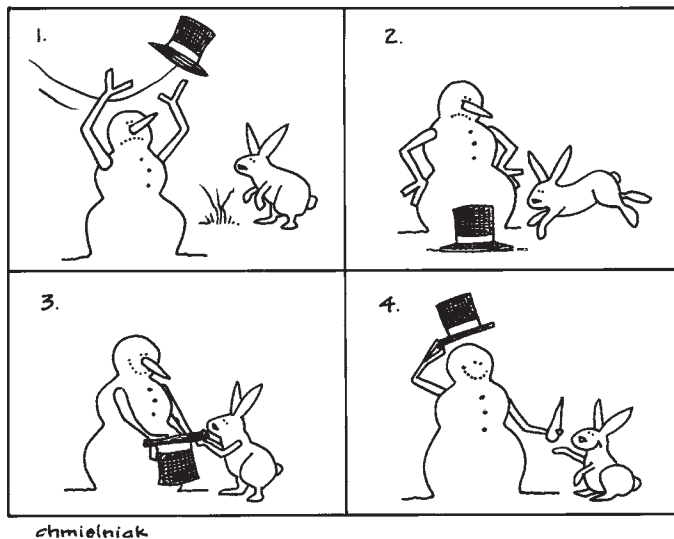
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Agent Notes

Using Dogs to Retrieve Downed Game

DURING ARCHERY SEASON, agents sometimes receive calls from hunters who have been unable to find their wounded game while afield. On occasion, hunters ask about using dogs to recover game.

The use of dogs to track game can be highly effective in some cases, but there are some things that a hunter should know before moving forward. Leashed dogs may be used to recover mortally wounded deer and turkey with the following restrictions: The hunter (1) has exhausted other reasonable means of finding the animal, (2) contacts a conservation agent, (3) does not possess firearms or bows during dog-tracking activities, and (4) maintains control of the leashed dogs at all times. Retrieval of game never authorizes trespass, so be sure and obtain landowner permission before pursuing and retrieving game on property belonging to another.

Tracking wounded game often takes skill, field experience, and patience. If you are a new hunter, don't be afraid to ask for help from more experienced hunters who are skilled in the art of tracking. It is important to remember that the hard work often comes after the release of the bow string, so focus on your shot placement and make sure you are properly prepared beforehand.

Patrice Reese is the conservation agent for Crawford County. If you would like to contact the agent for your county, phone your regional conservation office listed on Page 3.



HUNTING AND FISHING CALENDAR

FISHING	OPEN	CLOSE
Black Bass from Ozark Streams	05/24/14	02/28/15
Nongame Fish Giggling	09/15/14	01/31/15
Paddlefish on the Mississippi River	09/15/14	12/15/14
HUNTING	OPEN	CLOSE
Coyote	05/12/14	03/31/15
Crow	11/01/14	03/03/15
Deer		
Archery	11/26/14	01/15/15
Firearms		
November Portion	11/15/14	11/25/14
Antlerless Portion (open areas only)	11/26/14	12/07/14
Alternative Methods Portion	12/20/14	12/30/14
Late Youth Portion	01/03/15	01/04/15
Groundhog (woodchuck)	05/12/14	12/15/14
Pheasant		
North Zone	11/01/14	01/15/15
Southeast Zone	12/01/14	12/12/14
Quail		
Regular	11/01/14	01/15/15
Rabbit	10/01/14	02/15/15
Squirrel	05/24/14	02/15/15
Turkey		
Archery	11/26/14	01/15/15
Waterfowl	see the <i>Waterfowl Hunting Digest</i> or mdc.mo.gov/node/3830	
Wilson's (common) snipe	09/01/14	12/16/14
Woodcock	10/15/14	11/28/14
TRAPPING	OPEN	CLOSE
Beaver and Nutria	11/15/14	03/31/15
Furbearers	11/15/14	01/31/15
Otters and Muskrats	11/15/14	02/20/15

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, *The Spring Turkey Hunting Regulations and Information*, the *Fall Deer and Turkey Hunting Regulations and Information*, the *Waterfowl Hunting Digest*, and the *Migratory Bird Hunting Digest*. For more information, visit mdc.mo.gov/node/130 or permit vendors.

Operation Game Thief

Help put game thieves out of business. If you see a possible violation in progress, call your county conservation agent immediately or dial the toll-free number below:

1-800-392-1111

All information is kept in strict confidence. Desirable information includes names of violators, vehicle description and license number, as well as the violation location.

ASK THE Ombudsman



Bald eagle

Q. What is the best time of year to see bald eagles in Missouri?

Bald eagles are usually found near lakes, rivers, and marshes as they hunt for fish, and winter is a great time to see them in larger numbers. Missouri's winter eagle watching is spectacular, and the Department schedules Eagle Days around the state from December through February. For more information about an Eagle Days event near you, or for a list of the best places for eagle viewing in Missouri, go to mdc.mo.gov/node/16598.

Q. Is winter trout fishing catch and release only?

From Nov. 1–Jan. 31, it is catch and release only, meaning all trout must be released unharmed immediately, and you

may only fish with flies, artificial lures, and unscented plastic baits. Beginning Feb. 1, any bait may be used and four trout may be kept regardless of size. All anglers, ages 16 to 64 years, must have a valid Missouri fishing permit and any angler harvesting trout must also possess a trout permit. For a list of winter trout fishing areas near you, go online to mdc.mo.gov/node/5603. Winter trout fishing is a fun outdoor activity and a great alternative to being cooped up inside this winter. In addition to quality trout in Ozark streams, rainbow trout are stocked each winter by the Conservation Department in lakes around the state.

Q. Any suggestions on recycling a Christmas tree after the holidays?

If your community does not offer a tree-recycling program, there are several creative ways to make further use of your tree. You can place the tree in the backyard to offer cover for wildlife, or under bird feeders to provide nesting locations in the branches. Your tree can also be shredded or chipped for mulch, or if you used a live evergreen and your ground is still soft enough to spade up, add it to your home landscape for years of enjoyment and wildlife cover. The most interesting way to recycle your tree, and perhaps the least known, is to sink it in your pond to enhance fish habitat. Trees provide woody cover that makes excellent habitat for invertebrates and are an ideal food source for smaller fish.



Note to readers: The ombudsman position is currently vacant, but please continue to send us your questions, suggestions, or complaints concerning the Conservation Department or conservation topics.

Address: PO Box 180
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Phone: 573-522-4115, ext. 3848
Email: Ombudsman@mdc.mo.gov



White-tailed deer

Department, UM, Cooperate on Deer Study

The Conservation Department and the University of Missouri are initiating a five-year study to evaluate white-tailed deer survival, reproduction, and movement patterns within two different Missouri habitats. The study will provide information about recent large-scale changes in habitat, hunter goals, deer densities, and harvest vulnerability and the effect of these changes on deer survival, reproduction, and movements. Information gained from this project will be used to fine-tune deer population models, disease man-

agement protocols, and localized management.

Research will occur in the central Ozarks and northwest regions of the state to explore the effects of regional habitat differences, land ownership, and harvest regulations. The Ozark study area will include Douglas, Howell, Texas, and Wright counties. The northwest study area will include Nodaway, DeKalb, Gentry, and Andrew counties.

Beginning in January 2015, researchers will capture deer of all ages and both sexes and place GPS collars on 120 deer in each study area. Target

study samples will include 30 yearling bucks, 30 adult bucks, 30 females (yearling and adults combined), and 30 fawns. Each year, the sample of collared deer will be replenished to replace natural and hunting mortalities, as well as deer maturing to older age classes. Adult deer will be captured and collared from January through March, and pregnant females will be given a transmitter used to alert researchers when a birth occurs, allowing the research team to locate and collar fawns.

This is a collaborative project among the Department, University of Missouri, and most importantly, Missouri landowners and hunters. Many research activities will occur on private property, including adult deer capture, locating fawns, and investigating mortalities. If you have property within the study area counties and are interested in learning more about the research, contact Emily Flinn at Emily.Flinn@mdc.mo.gov. The Department is excited and appreciative to conduct this research project with the assistance of Federal Aid in Wildlife Restoration Funds.

Discover Eagles

You can discover nature from now through February at organized Eagle Days events, or enjoy eagle viewing on your own. Missouri is one of the leading lower 48 states for bald eagle viewing. More than 2,000 bald eagles are typically reported around Missouri's large rivers and reservoirs during the winter.

Organized events include live-eagle programs, exhibits, activities, videos, and guides with spotting scopes to help participants see eagles perched in trees, flying, and fishing. Be sure to dress for winter weather and don't forget cameras and binoculars.

Events are set for:

- Dec. 6 from 9 a.m. to 4 p.m. and Dec. 7 from 10 a.m. to 4 p.m. at Squaw Creek National Wildlife Refuge south of Mound City. Call 816-271-3100 for more information.
- Jan. 10 from 9:30 a.m. to 3:30 p.m. and Jan. 11 from 10:30 a.m. to 3:30 p.m. at Smithville Lake Paradise Pointe Golf Course Clubhouse north of Kansas City. Call 816-532-0174 for more information.
- Jan. 17 from 9 a.m. to 4 p.m. and Jan. 18 from 12:30 p.m. to 4:30 p.m. at Springfield Conser-

vation Nature Center. Call 417-888-4237 for more information.

- Jan. 17-18 from 9 a.m. to 3 p.m. at the Old Chain of Rocks Bridge south of I-270 off Riverview Drive in St. Louis. Call 314-877-1309 for more information.
- Jan. 24 from 9 a.m. to 4 p.m. and Jan. 25 from 10 a.m. to 3 p.m. at Lock and Dam 24 and Apple Shed Theater in Clarksville. Call 660-785-2420 for more information.
- Jan. 24 from 10 a.m. to 2 p.m. at Runge Conservation Nature Center. Call 573-526-5544 for more information.
- Feb. 7 from 9 a.m. to 4 p.m. at the Mingo National Wildlife Refuge off State Highway 51 near Puxico. Call 573-222-3589 for more information.

Can't make an Eagle Days event? Other hot spots for winter eagle viewing include:

- Moses Eagle Park at Stella
- Lake of the Ozarks at Bagnell Dam Access east of Bagnell
- Eagle Bluffs Conservation Area on Route K southwest of Columbia
- Lock & Dam 24 at Clarksville
- Lock & Dam 25 east of Winfield
- Mingo National Wildlife Refuge northwest of Puxico
- Old Chain of Rocks Bridge south of I-270, off of Riverview Drive in St. Louis
- Riverlands Environmental Demonstration Area east of West Alton
- Schell-Osage Conservation Area north of El Dorado Springs
- Smithville Lake north of Kansas City
- Squaw Creek National Wildlife Refuge south of Mound City
- Swan Lake National Wildlife Refuge south of Sumner
- Table Rock Lake and Shepherd of the Hills Fish Hatchery southwest of Branson
- Truman Reservoir west of Warsaw

For more information, visit mdc.mo.gov/node/16598.

Shooting Range Survey Slated for January

The Conservation Department and the Missouri 4-H Foundation will conduct a survey in January

to gauge public opinion about available services and usage of unstaffed Conservation Department shooting ranges.

The Conservation Department's 70 unstaffed shooting ranges make Missouri a national leader in access to free, publicly owned shooting ranges. The Department is partnering with the Missouri 4-H Foundation for a voluntary survey. Survey staff provided by 4-H will ask range users to answer a series of questions about their experience

using the ranges. The survey will take place at approximately 40 shooting ranges between Jan. 31 and Dec. 31, 2015.

The mission of the Conservation Department's range program is to provide a safe place to practice shooting and archery skills for Missouri citizens. The survey will help the Department gain a better understanding of the needs of citizens using the ranges and adapt range management to those needs.



CONSERVATION COMMISSION ACTIONS

The October Commission meeting featured presentations and discussions regarding the Discover Nature Schools program, the Mississippi River Basin, strategic guidance for healthy forests, fish, and wildlife, and personal services trends. A summary of actions taken during the Oct. 16–17 meeting for the benefit and protection of forest, fish, and wildlife, and the citizens who enjoy them includes:

» **Approved** final recommendations for changes to the *Wildlife Code* pertaining to captive cervid facilities. The anticipated effective date of these regulation changes is Jan. 30, 2015. Actions include:

- **Banning** the importation of live white-tailed deer, mule deer, and their hybrids from other states.
- **Requiring** all facilities, existing and new, to maintain or construct a single 8-foot fence following specific standards detailed in the *Wildlife Code of Missouri*. Existing facilities would have 18 months to bring fencing into compliance.
- **Requiring** Class I and Class II wildlife breeders and big game hunting preserves to test all mortalities of deer that are older than 6 months for chronic wasting disease and allow permittees to apply for an exemption from mandatory testing requirements in the event of a mass-casualty event.
- **Requiring** Class I and Class II wildlife breeders that hold deer to participate in a U.S. Department of Agriculture-approved chronic wasting disease herd certification program.
- **Set** requirements for disease testing, record-keeping, reporting disease test results, and complying with an established disease response plan in the event a disease is discovered.
- **Prohibiting** any new captive-cervid facilities within 25 miles of a confirmed chronic wasting disease location for five years.

» **Approved** amending an agreement for professional engineering services for the design of the new Grand River Pump Station at Fountain Grove Conservation Area (CA) in Livingston County.

» **Approved** the exchange of a 90-acre tract of Clubb Creek CA in Bollinger County for an 85.9-acre tract in Wayne County as an addition to Coldwater CA.

» **Approved** the sale of 1.64 acres of Little Black CA in Ripley County.

» **Approved** the sale of approximately 5 acres of Hollister Towersite in Taney County.

The next Conservation Commission meeting is Dec. 11 and 12. For more information, visit mdc.mo.gov/node/3430, or call your regional Conservation office (phone numbers on Page 3).

[NEWS & EVENTS]

(continued from Page 7)

The partnership reflects the two organizations' long-standing commitment to promoting shooting sports.

"Missouri 4-H is a national leader in youth shooting sports with a significant interest in the quality of the experience at the shooting ranges in our state," said Missouri 4-H Foundation Executive Director Cheryl Reams, "so we're very pleased to implement this important program on behalf of the Conservation Department and the public. We encourage range users to participate in this survey to help the Department to continue providing the best facilities for our states' hunting and shooting enthusiasts."

Celebrating 64 years of service to 4-H youth, the Missouri 4-H Foundation secures and manages funds for the MU Extension 4-H Youth Development Program, provides higher education scholarships, and recognizes 4-H volunteers. MU

Extension 4-H is a community of 276,921 youths from across Missouri learning leadership, citizenship, and life skills.

The Conservation Department also maintains five staffed shooting facilities around the state to provide safe, family-friendly places to practice shooting and archery skills. Missouri has a rich history of hunting and shooting sports, including being a national leader in public range development. For more information about Department shooting ranges, including locations, hours, and driving directions, visit mdc.mo.gov/node/6209.

Forest ReLeaf Wins National Award

On April 26, 2014, Donna Coble, executive director of Forest ReLeaf of Missouri, accepted the Excellence in Urban Forest Leadership Award from the National Arbor Day Foundation. The national awards competition recognizes individuals and

organizations that have made outstanding contributions to tree planting, conservation, and stewardship.

Forest ReLeaf was recognized for its work in high-need areas throughout Missouri. It earned special praise for its efforts in Joplin, where it has shipped and helped plant over 5,000 trees to replace those lost in the May 2011 tornado. Describing Forest ReLeaf's work, The Arbor Day Foundation said, "Forest ReLeaf has helped to restore the urban tree canopy and — more importantly — helped to restore hope in communities, like Joplin, devastated by disaster and working to rebuild and recover."

Forest ReLeaf is a nonprofit organization headquartered in St. Louis. Since their start in 1993, they have distributed over 150,000 trees for planting projects in virtually every county in Missouri. They accomplish this with a staff of three full-time and one part-time employees and a large group of dedicated and hard-working volunteers.

To learn more about Forest ReLeaf visit moreleaf.org.

Join the Century-Old Tradition

This month, Missourians have the chance to be part of a 115-year tradition by participating in the Audubon Christmas Bird Count. Each year, more than 70,000 volunteers fan out in 2,400 locations to document bird life in their home areas. Their observations become part of the most comprehensive data set revealing population changes, ranges, and movements of bird populations across the continent. Scientists rely on this trend data to better understand how birds and the environment are faring and what needs to be done to protect them. Every local count is part of this vast volunteer network and continues a holiday tradition that stretches back over 100 years. This year's counts will take place between Dec. 14 and Jan. 5. To find a count near you, visit mdc.mo.gov/node/15017.

Give the Gift of Nature

Are you wondering how to find the right gift for everyone on your holiday shopping list without breaking the bank or even leaving home? The Nature Shop online could be the answer.

The 2015 *Natural Events Calendar* has 365 days' worth of visual thrills and insights into natural



WHAT IS IT?

Christmas Fern | *Polystichum acrostichoides*

On Page 1 is a young fiddlehead of the Christmas fern, a Missouri native evergreen that occurs in both dry and moist wooded slopes, moist banks, and ravines. Young fiddleheads, called crosiers, arise in early to mid-spring and are silvery and scaled. The glossy green leaves, or fronds, typically grow in a fountain-like clump up to 2 feet tall. The fronds stay upright in the growing season but tend to lie down after the first frost. —photograph by David Bruns

DID YOU KNOW?

Conservation makes Missouri a great place to fish.

Winter Trout Fishing

» **Enjoy great trout fishing around the state**, throughout the year. A trout lakes map and links to all trout area locations can be found online at mdc.mo.gov/node/5603.

» **The winter catch-and-release fishing season** at Missouri's four trout parks is a good time to learn how to catch trout on a fly. Sharpen your skills at Bennett Spring State Park, Lebanon; Montauk State Park, Salem; Roaring River State Park, Cassville; and Maramec Spring Park, St. James.

» **Trout are stocked in 28 Winter Trout Fishing Areas** — mostly in or near urban areas — beginning Nov. 1. In addition to catch-and-release fishing through Jan. 31, many of these areas allow anglers to harvest trout as soon as they are stocked. Others allow harvest as early as Feb. 1. The daily limit at these locations is four trout with no length limit. A Missouri fishing permit is required, and a trout permit also is required if you plan to keep your catch.

» **Missouri hatcheries and trout parks** not only support our state's great fishing, they're also fascinating places to visit. Trout hatcheries are located at each of Missouri's four trout parks and on Lake Taneycomo. They provide high-quality trout fishing on cold-water streams in Missouri. Learn more about hatcheries and trout parks at mdc.mo.gov/node/4457.

phenomena from meteor showers to wildlife birthing seasons. At \$7, plus shipping and sales tax, where applicable, it is the bargain of the year.

Paddlers on your list would love a copy of the recently updated *Paddler's Guide to Missouri*. The \$8 guide has been substantially expanded to include color photos, maps, and minute details about Missouri's most popular float streams, plus dozens of lesser tributaries. In all, the book covers 58 rivers and streams in every corner of the state.

Another great buy is *Cooking Wild in Missouri*, a lavishly illustrated guide to cooking the Show-Me State's bounty of wild game, fish, mushrooms, nuts, and fruits. The 200-page book has recipes ranging from Italian gelato and Korean barbecued venison to classic American dishes. For \$15, this book has something for every cook on your shopping list.

Discover the unique history of the "Missouri Model" of wetland and waterfowl management in the large format, richly illustrated new book *Waterfowl Hunting and Wetland Conservation in Missouri — A Model of Collaboration*. All net proceeds from sales of this \$40 book will be dedicated to wetland and waterfowl conservation that benefits Missouri.

You can see the full selection of books, greeting cards, DVDs, CDs, and more at mdcnatureshop.com. Order online or by calling toll-free 877-521-8632. Many Nature Shop items also are available at conservation nature centers.

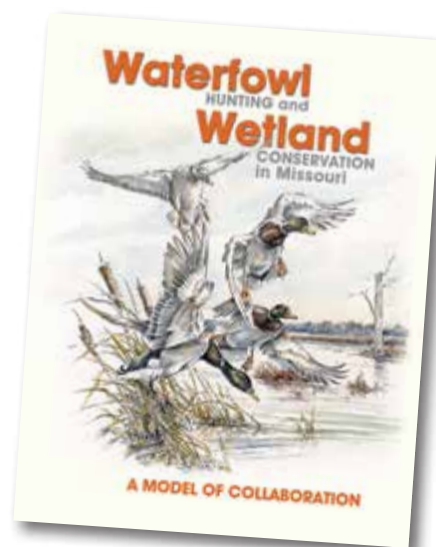
For hunters and anglers, how about a lifetime permit? The Resident Lifetime Small Game Hunting Permit costs as little as \$35 for Missouri hunters 60 or older. The same permit is an amazing bargain at \$275 for Missouri residents 15 and younger. Lifetime Conservation Partner Permits, which include hunting and fishing privileges, start at \$70 for Missouri residents 60 and older.

Lifetime permits are not available over the counter. For information about how to apply for one, visit mdc.mo.gov/8849, call 573-522-4115, ext. 3574, or write to Lifetime Permits, Missouri Department of Conservation, PO Box 180, Jefferson City, MO 65102-0180.

Book Sales Support Waterfowl Conservation

You can discover the unique history of the "Missouri Model" of wetland and waterfowl manage-

ment and support wetland and waterfowl management programs with a new, large-format, and richly illustrated book, *Waterfowl Hunting and Wetland Conservation in Missouri — A Model of Collaboration*. Careful planning, skillful execution of well-designed strategies, public and private partnerships, strong citizen support, and dedicated funding have all led to the quality wetland habitats and migratory bird populations that Missourians enjoy today. This new book chronicles and celebrates related efforts and the resulting successes. The book's authors, many of them former waterfowl biologists and wetland managers, donated their services to produce the book. Sponsors, anchored by Bass Pro Shops, the Missouri Department of Conservation, Ducks Unlimited, the Conservation Federation of Missouri, the Missouri Conservation Heritage Foundation, and private citizens, have covered all production costs. This is a must-have book for all serious migratory bird hunters, and all proceeds from



sales of the book will be dedicated to wetland and waterfowl conservation that benefits Missouri. The book is available for purchase through the Nature Shop at mdcnatureshop.com or visit mochf.org for further information.

Hooked

ON OLD WOODEN FISHING LURES

Learn the
history behind
the treasures
you find at flea
markets and
auctions



Chippewa
Muskies Floater



The 5-hook Shakespeare Wooden Minnow

BY KEVIN RICHARDS

PHOTOGRAPHS BY NOPPADOL PAOTHONG

I

'VE ALWAYS BEEN A PACK RAT. IN FACT, I still have the first tackle box I ever owned in the 1960s. In the mid-80s, I found my first tackle box of antique lures at an auction near Lake of the Ozarks. I was surprised to see that buyers were so interested in old fishing plugs, even the wooden Creek Chub Pikies and Lazy Ikes, like the ones I still had in some of my fishing tackle boxes.

My obsession with old fishing tackle grew from that point on. Some of my favorite old fishing lures were made from 1900 through about 1960. I find them in tackle boxes that most likely belonged to anglers who pursued bass in Missouri or larger fish when they travelled to the northern U.S. or Canada.

I hope this bit of tackle history will help get you hooked on collecting old fishing lures, too!

Reel Lure



POPULAR BAIT STYLES

Side-Hook Minnows

Many companies made side-hook minnows. Most of these wooden baits had either three or five treble hooks, although at least two companies made slightly larger versions that boasted six treble hooks! Can you imagine trying to unhook a fish that had taken with one of these baits? Keep in mind that catch-and-release was very uncommon until the 1970s.

Heddon's Dowagiac Minnow No. 150 was as popular among anglers of the early 1900s as it is with collectors today. This lure was often referred to by its model number "150" or simply as a "5-hooker" or "Dow-jack." It came in a variety of great colors, and it was made with glass eyes from about 1904 through 1953. The hook hangers and spinners used on these baits changed over the years and are therefore very helpful in dating individual lures.

At first glance, the 5-hook Shakespeare Wooden Minnows look very similar to the Heddon No. 150 series, but there are notable differences in the spinners and in the way the hooks are attached. For about 10 years, starting in 1906, the side hooks were mounted on a clip or a plate that ran through a hole in the body. If you can actually

Side-hook minnows, from top to bottom: Heddon's Dowagiac Minnows No. 100 and No. 150, Shakespeare Wooden Minnows (center), and Pontiac Minnow.



see through the body of the lure from one hook to the other, the odds are that you've found a Shakespeare Minnow, which is about 100 years old.

One of the small companies that made high-quality side-hook minnows was the Pontiac Manufacturing Company in Michigan. Their Pontiac Minnow is a rare find for any collector.

Early Wooden Fishing Lure Companies

Before 1900, very few commercially produced wooden fishing lures were made and sold in the United States. The period from 1900 to 1930, however, must have been an exciting time for avid sport fishing anglers looking for new wooden fishing lures. The industry was growing rapidly, and the four largest early companies were expanding their product lines and offering many styles of wooden baits.

The Enterprise Manufacturing Company of Akron, Ohio, makers of Pflueger Fishing Tackle, sold two of the first wooden lures.

F.G. "Bucktail" Worden of South Bend, Indiana, started making bucktail

baits in his kitchen in 1895 or 1896. By 1900, he was selling wooden minnows, and in 1905 he launched the Worden Bucktail Manufacturing Company.

William Shakespeare, Jr. patented the first level-wind fishing reel that actually worked in 1896. In 1897, he started his fishing tackle company, and in 1901 he won a patent for his first wooden fishing lure.

By the late 1890s, James Heddon's carved baits had proven to be fish catchers and were sought after by his fishing friends. In 1900, Heddon and his son, Will, started the James Heddon & Son Company. In 1901, they offered their first commercially available plugs, and in 1902 they received their first patent.

Topwater Lures

Some of the side-hook minnows were sold as “floaters” or topwater lures. However, there were many other topwater lure styles developed over the years, and several are still popular today.

Heddon’s Surface Minnow No. 300 was sold from 1905 to 1941. This 4-inch fat-bodied surface minnow was one of the bigger Heddon baits of this period. The No. 300 in the photo is one of the oldest versions. Note the three long, red, hand-painted gill marks below the eye. This was one of Heddon’s lures made with muskies in mind. In fact, in 1925 the name was changed to the Musky Minnow. Later it was changed again to the Musky Surf-fusser. No matter what they called it, it reminds me of a number of modern bass and muskie baits.

Pflueger made the famous Globe from 1910 to 1966, when the company was sold to Shakespeare. There were subtle changes in the Globe over the years, but it always looked about the same. Many other companies have made similar baits, and most folks call them all “Globe-style” baits.

South Bend produced a good selection of topwater baits, and it started the Surf-Oreno line in 1916. This lure came in several sizes and many colors, and some of them look a lot like the Heddon No. 300. The South Bend Woodpecker represents an unusual style of topwater lure. South Bend often produced this very popular surface bait with a luminous body and red head. The least common version of this bait came rigged with two weedless hooks and was sold from 1914 to 1923.

Very similar to the Woodpecker was the Moonlight Floating Bait, which originally came painted a solid, luminous white.



Topwater lures, from bottom to top: two Pflueger Globes, two South Bend Woodpeckers, Moonlight Floating Bait, two South Bend Surf-Orenos, Heddon No. 300, Creek Chub Plunkers, Pop 'n' Dunk, and Surface Dingbat.

The Creek Chub Plunker represents a style that has stood the test of time. Wooden Plunkers were sold from 1926 through 1978. Creek Chub made some fairly similar topwater baits like the Pop 'n' Dunk and the Surface Dingbat. Plunker-style lures are still being sold today and continue to be very popular, especially with anglers fishing for black bass or white bass.

Missouri Baits and Fishing Reels

Missouri has a rich fishing tradition. It's no surprise then that many fishing lures, tackle items, and fishing reels have been made in our state for more than 100 years.

Several of the most notable Missouri baits came from Springfield and are sometimes collectively referred to as "barber pole baits" because of their spiral-striped paint jobs.

Missouri was also well known for quality fishing reels. William Talbot was a Nevada, Missouri, jeweler who made outstanding reels starting in the early 1890s. Some of the model names include Star, Comet, Meteor, Mars, Jupiter, and Niangua.

Reel Lures and
Talbot reels



Crankbaits

Around 1915, South Bend began selling a shallow wobbler-type lure, which claimed the name Bass-Oreno. It became one of the best-known South Bend baits of all time. In 1922, South Bend added the very similar Pike-Oreno No. 975. This was a slightly slimmer version of the wooden Bass-Oreno and was fitted with a metal lip to make it a shallow-diving crankbait. The following year they added the Midget Pike-Oreno No. 974. These lures have great action, but only lasted until 1929 and 1927, respectively. In 1931, a new style of Pike-Oreno, shaped much more like our modern-day crankbaits, hit the market.

Heddon made two sizes of the Game Fisher from 1923 to 1933. The larger version had three segments, and the baby had two segments. It has a fantastic action in the water. The shape and action of the Baby Game Fisher lives on, with at least two companies making very similar lures out of plastic. The newer lures range in size from small bass baits to 13-inch-long muskie baits. I've caught many muskies and some big bass on the modern versions, but I've also landed a muskie on one of the original Game Fishers from the 1920s.

You can't talk about classic wooden baits without mentioning Creek Chub Pikie Minnows. These baits were made from 1920 through 1978 in many sizes and models, from the inch-long Fly Rod Pikie to the foot-long Giant Pikie. You can still buy Pikie Minnows today, plus many modern lures that have a similar design.



Popular early crankbaits were South Bend Pike-Orenos (above left and inset), Heddon Game Fishers (above center), and Creek Chub Pikies (above right).



Lures that look like frogs

Paw Paw Wottafrogs, Heddon Luny Frog, and other frog-like baits



Lures that look like crayfish

Heddon Crab Wiggler (two on upper left), Heddon Tadpolly (two in middle), Creek Chub Crawdad (two on upper right) and fly-rod Crawdad (lower left), Smith & Yelton Crawpappy (lower right)



Lures that look like fish

Clockwise from front corner: Heddon Spindiver, Shakespeare Strike-it, 3 Heddon Punkinseeds, Paw Paw Bullhead, 2 Paw Paw Casters



Lures that look like mice

Shakespeare Pad-Ler (upper left), Heddon Meadow Mouse (two on right), Heddon Crazy Crawler (two at bottom), Creek Chub Lucky Mouse (left), fly-rod mice (on cheese)

Oddballs

One of the fun things about collecting old fishing lures is finding some of the real oddball designs. Some lasted just a few years because anglers and fish may have not liked the design as much as the inventors did. Others faded away because they were just too labor-intensive to allow the inventors to make a good profit. Some of the oddballs lasted a long time, so they must have hooked plenty of fish — or at least plenty of fishermen! I'll mention just three of the oddballs I like the most.

Heddon's Dummy Double was sold from 1913 to 1916. It came equipped with three very odd "dummy double" hooks (note that the bait in the photo has had the dummy tail hook replaced with a treble hook). The shape of each hook is like the common double hooks of the early 1900s, but one side of each is a smooth "dummy" loop. One 1913 advertisement for the Dummy Double says, in red, "The Idea Looks Wrong But It Is The Rightest Thing Ever Devel-

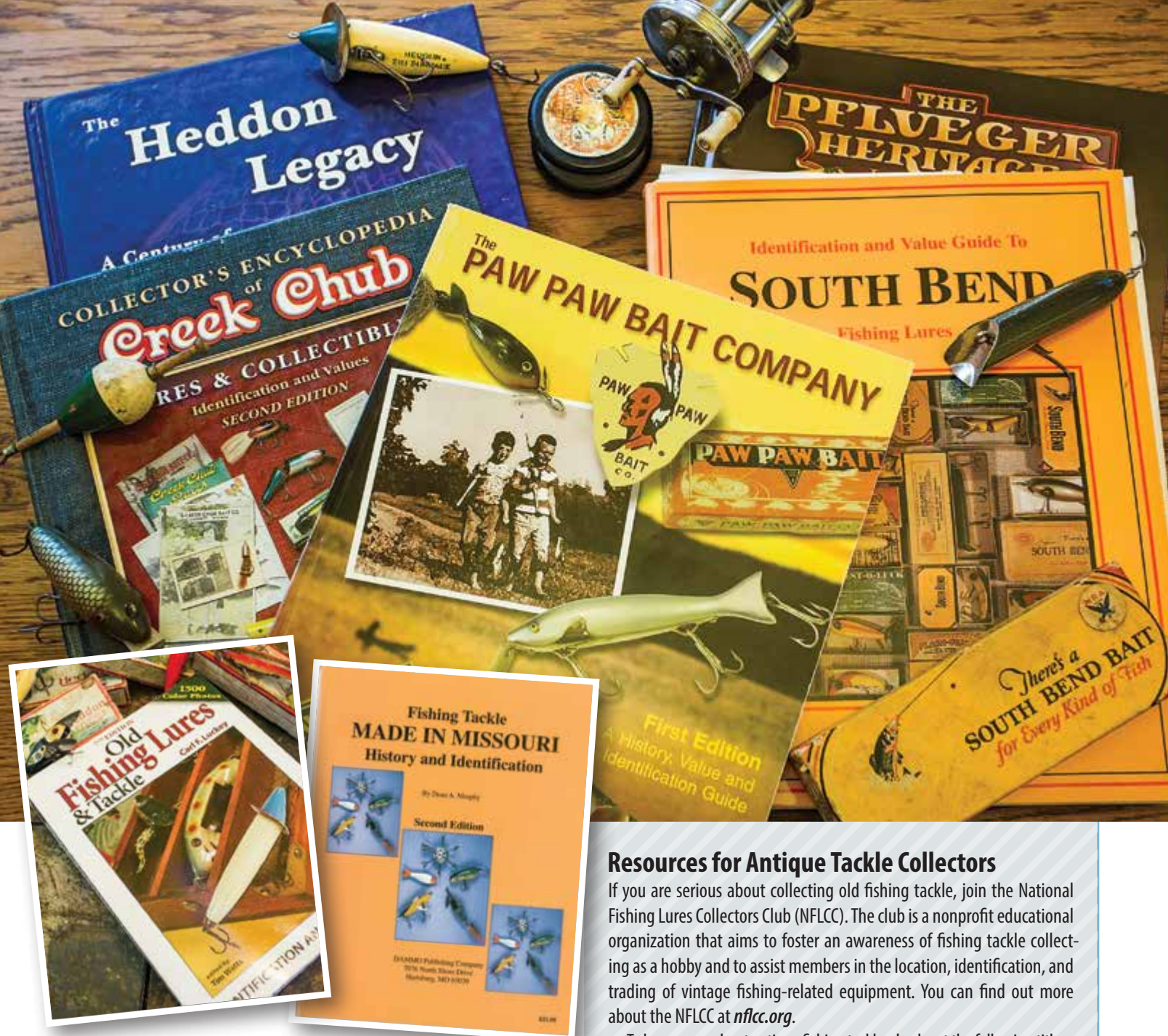
oped In Hook Manufacture" and goes on to mention that it "makes a miss practically impossible." Apparently the bait didn't hook anglers as well as it hooked fish — it was discontinued after just four years.

Omer F. Immell of Blair, Wisconsin, made six sizes of his unusual Chippewa Baits from 1910 to 1917. I really appreciate the workmanship of these baits. All the sizes are rare, but the larger muskie sizes are the rarest. The one muskie version I have was a gift from a good friend who was past president of Muskies, Inc.

Would you design a lure that was shaped like the head of a vacuum cleaner? Well Frank Howe and his partners from Indiana did, and they were granted a patent on their Howe's Vacuum Bait in 1909. By 1922, it was being sold as the South Bend Vacuum Bait. It stayed in the South Bend catalogs until the 1940s. So the bait that looked like a mini vacuum-cleaner head remained in commercial production for over 30 years!



Oddball lures: Heddon's Dummy Double (left), Chippewa baits (upper right), South Bend Vacuum Bait (lower right).



You never know what treasures you may find when you open up an old tackle box. I've gotten a tremendous amount of enjoyment over the years from researching the history of old fishing lures and their makers. I just wish the old lures could talk and share their fish stories with us! ▲

Kevin Richards is a freelance writer and photographer. He also works as a field editor and advertising manager for MUSKIE magazine, the official publication of Muskies, Inc. Kevin is retired from the Missouri Department of Conservation, where he served as a Fisheries Management Biologist and Fisheries Unit Chief. If you need help identifying old fishing lures or reels, you can contact Kevin at: MuskieMag@yahoo.com.

Resources for Antique Tackle Collectors

If you are serious about collecting old fishing tackle, join the National Fishing Lures Collectors Club (NFLCC). The club is a nonprofit educational organization that aims to foster an awareness of fishing tackle collecting as a hobby and to assist members in the location, identification, and trading of vintage fishing-related equipment. You can find out more about the NFLCC at nflcc.org.

To learn more about antique fishing tackle, check out the following titles.

- **Old Fishing Lures & Tackle, 7th Edition** by Carl F. Luckey (edited by Tim Watts). With 768 pages and more than 1,500 photos, it provides a detailed overview of many tackle companies and lures. I referred to it extensively for this article.
- **Fishing Tackle Made in Missouri, Second Edition** by Dean A. Murphy. This is a very good reference book if you want to learn more about tackle made in our state.
- **The Heddon Legacy** by Bill Roberts and Rob Pavey
- **The Pflueger Heritage** by Wayne Ruby
- **Identification and Value Guide to South Bend Fishing Lures** by Terry Wong
- **The Paw Paw Bait Company** by Reed Stockman and Scott Tougas
- **Collector's Encyclopedia of Creek Chub Lures and Collectibles, Second Edition** by Harold E. Smith, M.D.

This prairie planting on Mora Conservation Area in Benton County is an example of Missouri land that has already gone through grassland restoration. Photograph by David Stonner



Restoring Missouri's *Native Grasslands*

Three projects help wildlife and improve hunting

BY MAX ALLEGER, MATT HILL, JOSH CUSSIMANIO, AND DAVE HOOVER

When European settlers arrived in Missouri, native tallgrass prairie covered one-third of the state. Amounting to about 15 million acres, this vast, nearly treeless landscape spread as far as the eye could see. Rich prairies included hundreds of kinds of grasses and wildflowers that dominated northern and western Missouri. Today, Missouri has about 17 million grassland acres, but only 0.5 percent of that is native prairie. The rest have been converted to crop production or were seeded to nonnative forage grasses to support a growing cattle industry. Although economically important, the majority of modern-day grasslands lack the natural diversity that prairie wildlife, from insects to birds, needs to survive.



In addition, invasive trees and human development have fragmented Missouri's native prairie remnants, making them evermore precious and rare. This rarity unfortunately means that many kinds of grassland wildlife, including Henslow's sparrows, Mead's milkweed, and northern crawfish frogs, are in real trouble. To safeguard Missouri's native grasslands and the wildlife that need them to survive, the Conservation Department started exciting renovation projects at three sites in the western half of the state. These projects promise to benefit native plants and both game and nongame wildlife that depend on diverse, well-managed grasslands.

Helping our planet stay cool

Growing concern over rising carbon levels in our atmosphere has focused interest on the ability of plants to capture and store carbon dioxide in their roots, stems, and leaves. This ability is known as *carbon sequestration*. Many native prairie plants have extensive root systems — some penetrate as deep as 15 feet into the soil! As a result, well-managed native grasslands have a tremendous potential to trap carbon deep below ground and reduce overall atmospheric carbon dioxide levels.

Supporting our native pollinators

The plight of pollinators has been well publicized, and for good reason — they play a key role in producing many of our favorite foods. You may have read about the devastating impact of colony collapse disorder on the honeybee. This semi-domesticated insect is largely responsible for pollinating nearly all of our fruit and vegetable crops. Unfortunately, many less-familiar native pollinators — including other kinds of bees, butterflies, moths, and insects — are declining as well. Restored grasslands can support over one hundred species of flowering plants and don't require insecticides to remain productive. Because of their natural productivity, restored native grasslands may prove important to the long-term survival of pollinators like the once-common monarch butterfly.

Grasslands Help Wildlife Survive and People Thrive

Grasslands are not only a beautiful, rare natural community — they also provide many benefits for wildlife and people that may go unnoticed. Healthy native grasslands provide essential habitat for plants and animals that don't occur anywhere else, so efforts to restore them are especially important. Grasslands further help wildlife and human communities by providing livestock forage, reducing erosion, helping filter groundwater, and storing carbon from the atmosphere.

Reconnecting the Pieces

In general, the lack of connected and spacious grassland habitat forces wildlife into small, isolated populations, putting them at risk of disappearing altogether. Grassland birds, in particular, are the most rapidly declining bird group in the country. These birds, like the upland sandpip-

er, grasshopper sparrow, and eastern meadowlark, continue to decline because most modern grasslands lack the nesting and brood-rearing cover they need. For example, tall fescue, a type of nonnative grass widely planted for cattle forage, creates an area thick with one kind of plant. These areas are generally managed in ways that don't provide wildlife habitat. In contrast, restored grasslands produce many kinds of grasses and wildflowers that provide turkey nesting cover and places for deer to bed down, but the real winners are rabbits, quail, and songbirds, which thrive in well-managed grasslands.

Aside from providing structural diversity above ground, deep-rooted prairie plants also improve the ability of the soil to capture and hold moisture. Streams in healthy grassland landscapes are less flood-prone because the sponge-like soil allows more water to soak in during a storm and releases



Pollinators help put food on our tables

Pollen travels between flowers of the same kinds of plants on the bodies of bees, bats, butterflies, moths, birds, beetles, or by the wind. This pollen exchange results in fertilization — and in fruits and vegetables that we all eat. In the United States, pollination by many kinds of bees and other insects produces \$40 billion worth of products annually.



Mead's milkweed



Northern crawfish frog

The lack of connected and spacious grassland habitat forces many kinds of wildlife into small, isolated populations, putting them at risk of disappearing altogether.



Henslow's sparrow

it slowly and steadily. Well-managed grasslands help trap sediment that might otherwise choke streams with fast-moving runoff water from poorly managed pasture or cropland.

How Restoration Works

When native prairie parcels and grassland go unmanaged, trees and shrubs quickly take over and choke out native grasses and wildflowers. *Grassland restoration* is the collective term for a set of steps necessary to recreate functional grassland ecosystems. Restoration usually begins with tree removal to reduce fragmentation and to reconnect existing grasslands. Priority goes to removing trees taller than 15 feet, which provide sheltered travel pathways for predators like raccoons and perches for hawks to strike from. Managers leave patches of beneficial, low-growing native shrubs as escape cover for small game and shrub-nesting birds.

Next, it is often necessary to control invasive exotic plants, such as sericea lespedeza or tall fescue, which

can creep into grasslands over time. Managers use approved herbicides with care to remove targeted plants. After removing invading trees and other undesirable plants, managers may need to reseed the sites. Each year, Conservation Department staff and partners harvest nearly 20,000 pounds of grass and wildflower seed from native prairies! They use the resulting seed mix, which includes as many as 200 species, to plant about 800 acres of diverse grassland each year.

Before European settlement, fire and grazing maintained a shifting mosaic of patchy habitat across Missouri grasslands. Today, wildlife managers use a combination of prescribed fire, rest, and cattle grazing to simulate these natural cycles to provide patchy natural cover with a diverse mix of grasses, wildflowers, and low-growing shrubs. The result is ample feeding, nesting, and escape cover for grassland-dependent wildlife, including bobwhite quail and cottontail rabbits. Managers also plant their harvested seed mix next

to small, remnant native prairies — patches that have never been plowed — to encourage the insects, reptiles, amphibians, and small mammals that need prairie to expand their ranges into the newly planted adjoining parcels.

Restoration is Underway at Three Major Areas

SHELL-OSAGE CONSERVATION AREA

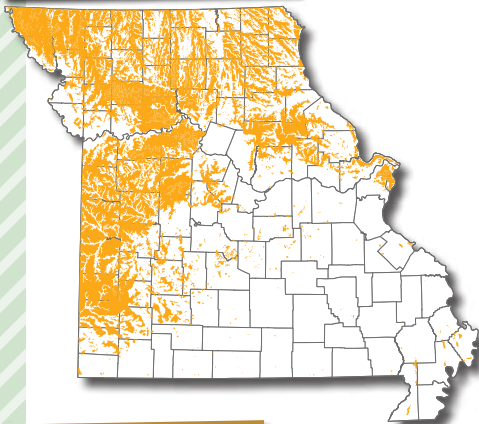
This 8,634-acre area lies along the south side of the Osage River in Vernon and St. Clair counties. At one time, expansive bottomland hardwood forests and wet prairie along the river merged into vast, open native prairie in the uplands. Today, some bottomland forest remains alongside critically important, intensively managed wetlands, and only isolated patches of the once-vast native prairie remain in the uplands.

Managers have begun targeted tree removal and prairie reconstruction with promising results, and the pace of restoration activities at Schell-Osage will quicken over the next four

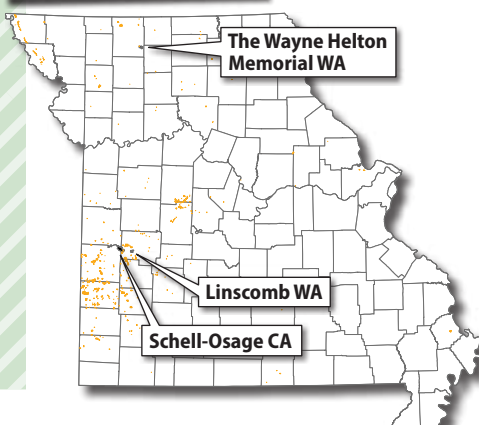
years. Managers will remove nearly 500 acres of woody cover from historic prairie sites. This treatment will favor native grasslands, transforming nearly 200 acres each of crop fields and overgrown old fields. This work will expand the acreage of existing native prairie remnants and allow them to function more naturally without wooded borders. Four grazing units will also be established over time to restore grazing as a natural function to enhance wildlife diversity in these restored grasslands.

Grassland renovations work to erase decades of encroachment by plants that are not part of our native grassland ecosystems and rebuild connectivity among small, remnant native prairies and grassland within the larger landscape.

Pre-settlement prairie



Present-day prairie



LINSCOMB WILDLIFE AREA

Similar work is underway at nearby Linscomb Wildlife Area in Saint Clair County, a 1,874-acre site with a mixture of forest, crop fields, grasslands, and natural sloughs along the Osage River. Soil types and historic maps suggest that roughly 600 acres of this area was once open prairie — of that, only 90 acres escaped cultivation because it was too rocky or wet to plow. Though small, these prairie remnants have harbored many rare plants and insects that will benefit from restoration activities. Managers plan to remove 90 acres of mature trees that divide open fields, plant 130 acres with a prairie seed mix on retired crop fields, and convert 100 acres of tall fescue to native grassland plants. Managers will also add fencing to support future grazing to improve plant and wildlife habitat. These projects will produce less fragmented grasslands with plant and structural diversity that will support a wide variety of wildlife.

Together, the Schell-Osage and Linscomb grassland renovations will add more than 1,400 acres of beneficial grassland habitat to the region. This will help reconnect the grassland landscape between the large tracts of Wah'Kon-Tah and Taberville prairies and privately owned grasslands. Over time, these restorations may also help stabilize greater prairie chickens within this landscape and benefit other species of conservation concern like crayfish frogs, regal fritillary butterflies, and Mead's milkweed.

THE WAYNE HELTON MEMORIAL WILDLIFE AREA

This 2,560-acre area in Harrison County was historically 70 percent tallgrass prairie with woodlands along Cat Creek. Now, nonnative grasses and undesirable woody vegetation like cedar, autumn olive, and honey locust dominate these once-open natural communities. The 30-acre Helton

More wildlife, better hunting, and prettier views coming soon!

Conservation area visitors sometimes find grassland restoration projects confusing. The sites often aren't very pretty at first, leaving some to wonder how cutting trees and disturbing the ground advances conservation. But wildlife that thrive in diverse grasslands need open areas with a variety of native plants and wildflowers, and even some patches of bare ground. Managers have to open up overgrown areas, rescue remnant prairies, and replace cropland and old fields with grasslands that native plants and animals need.

Prairie Natural Area and several small remnants that escaped cultivation are all that remain of these prairies.

Aggressive management over the next four years will renovate nearly 700 acres of old fields, nonnative grasses, and a portion of the cropland to native prairie plants. These habitat improvements will provide much-needed habitat for grassland songbirds, native pollinators, and bobwhite quail.

Turning Back the Clock to Better Hunting

Quail populations have steadily declined throughout the bird's range since the 1960s. Hunters once enjoyed large quail populations, which were a result of how we used the land rather than any management that may have favored them. In the past, a patchwork of small farm fields planted to a broad array of annual crops and forages occurred across much of Missouri, creating ideal conditions for bobwhites. In those days, the presence of both crops and livestock on most farms also provided a nearly ideal level of habitat disturbance for quail and cottontails. Burning was also more common and the landscape was less manicured.

Ongoing quail monitoring shows that grasslands managed with fire



Together, the Schell-Osage (top) and Linscomb (bottom) grassland renovations will add more than 1,400 acres of beneficial grassland habitat to the region. This will help reconnect the grassland landscape between the large tracts of Wah'Kon-Tah and Taberville prairies and privately owned grasslands.



and grazing have the potential to produce more quail than nearby areas managed in a more modern manner, where habitat is more intensively managed. Quail and small game management remains a high priority for the Conservation Department

and, in time, these projects will yield better hunting opportunities.

Grassland renovations work to turn back the clock, erasing decades of encroachment by plants that are not part of our native grassland ecosystems and rebuilding connectivity

among small, remnant native prairies within the larger landscape. In addition to these efforts on public land, the Conservation Department also works to help its neighbors improve the value of their grasslands for livestock and wildlife. Private land conservationists and wildlife biologists are available in every county to develop grassland management plans that fit landowner objectives and economic realities. In the end, these efforts will help to ensure a secure future for the wildlife and people that depend on healthy grasslands. ▲

Grassland Coordinator **Max Alleger** supports public and private landowner efforts to help the people and wildlife that share Missouri's grasslands. Wildlife Biologist **Matt Hill** manages the Linscomb Wildlife Area and oversees grassland restoration efforts there. Wildlife Biologist **Josh Cussimano** manages the Schell-Osage Conservation Area and oversees its grassland restoration efforts. Wildlife Management Biologist **Dave Hoover** oversees the Helton Prairie portion of the grassland restoration project.



BY LARRY LINDEMAN
PHOTOGRAPHS BY NOPPADOL PAOTHONG

BLACK POWDER BOBWHITES

Learn black powder basics and
discover the joys of pursuing quail
with a muzzleloader



I COUNT MYSELF LUCKY

to have done a little Missouri quail hunting back in the '60s and '70s. During that time, I enjoyed some success, but it pales in comparison to the thrill I get today from taking a muzzle-loading shotgun to the field in pursuit of bobwhites. I suppose it is a combination of the smell of burning powder, the smoke from the blast of the shotgun, and harvesting quail with an old-fashioned firearm that makes hunting in this manner so enjoyable. Pouring the charge components down the muzzle-end of a shotgun barrel, thereby "making my own shells" also adds to the reason I find hunting with muzzleloaders highly addictive.

Necessary Equipment

If you want to try your hand at hunting quail with a muzzleloader, you'll need some basic equipment and know-how.

Unlike modern firearms, muzzleloaders don't use removable shells or cartridges that contain gunpowder, primer, and projectiles. Rather, they have an ignition system that ignites the powder, which is poured down the barrel. This burning powder causes rapidly expanding gases to propel the projectiles out the barrel. The three most common types of muzzleloaders today are the flintlock, the caplock, and the inline.

From left: Lindeman measures out the Pyrodex, positions the wad, pours in the shot, prepares the overshot wad for tamping, and places a cap on the anvil.

The **flintlock** uses a spark from an actual flint rock striking a steel plate in order to create a spark that will in turn, ignite the gunpowder in the flash pan.

The **caplock** uses a percussion cap made of thin, somewhat flexible metal that fits neatly over a small, round, hollow anvil that leads directly to the powder. The anvil is also called the nipple, and by squeezing the thin cap slightly, deforming its round shape, it will be less likely to fall off once in place.

The **inline** doesn't have an ignition system off to the side of the firearm. It is straight in line with the barrel and also why the first two are sometimes called side-locks. Inlines are also ignited by a cap method, but some have been modified to accommodate a modern shotshell primer, which burns hotter, thereby ensuring a better ignition. Some newer types of inlines are even equipped with an electronic ignition system that uses a 9-volt battery to rapidly heat up a small wire coil that contacts the powder directly upon pulling the trigger.

Now that you have some idea of the kinds of muzzleloaders available, let's look at a shopping list.

» A muzzle-loading shotgun

» **Black powder or black powder substitute.** *I must warn you that smokeless modern shotgun or rifle powder cannot safely be used in muzzleloaders.* Many purists will use nothing other than black powder with its three main components: sulfur, activated charcoal, and potassium nitrate (in some recipes sodium nitrate is used). Several black powder substitutes (which are perhaps less corrosive than black powder) are also available. Pyrodex, Triple Seven, and Black MZ are just a few.





- » **Shot.** For quail, I prefer shot sizes 6, 7½, or 8.
- » **Wads.** The primary wads I use are made from pre-cut and lubricated cellulose, and I use pre-cut cardboard for the overshot wads.

- » **Eye and ear protection.** Polycarbonate lenses offer the best eye protection. I also prefer electronic muffs because I feel they are safer than earplugs. They protect your hearing while letting you hear low sound levels, like a flushing bird and other hunters' conversation.
- » **Dog(s).** Although optional, dogs aid tremendously, not only in finding quail, but also in retrieving downed or wounded birds that fall in dense cover.



Loading and Safety

Whether you use a sidelock (flintlock or caplock), or even an inline black powder shotgun, loading is much the same. In all instances, point the firearm up and away from yourself and others. To avoid double charging any muzzleloader, make *absolutely sure* that there is not already a charge in the barrel. You can do this easily by dropping in a ramrod that bears a mark indicating both a loaded barrel as well as an empty one. This is also a good practice to perform after loading, especially if you shoot a double-barreled shotgun. You'll ensure that there are no double loads to touch off, which could injure you and/or damage your shotgun.

Once you know the barrel is clear, pour a measured amount of black powder or readily available black

Harry smokes
a single bird
with the help
of a point
from Bonnie.



powder substitute into the barrel, followed by a wad. The wad (I prefer a pre-lubed cellulose wad) should be firmly tamped onto the powder charge so there is no gap between it and the powder. Even a small gap between the two could cause pressure buildup, which could lead to firearm damage or shooter injury.

Next, add a measured amount of shot. Unlike loading a single projectile, there is no need to seat the shot because gravity does an adequate job of settling the loose projectiles. The next step is adding an overshot wad made of thin cardboard to prevent the shot from rolling out when you tilt the barrel downward. Depending upon the action of your smokepole, it's much safer to prime the flash pan or cap the anvil after the dog is on point. Now you're ready for action!

Good Quail Hunting on Department Areas

If you're not blessed with good quail hunting on your land, check out the Department's 21 Quail Emphasis Areas. These conservation areas are located throughout the state, and recently the Department has ramped up quail habitat-improvement efforts on them. You can browse all 21 areas at mdc.mo.gov/node/3333.

Tips for Hunting Quail With a Muzzleloader

When you've gathered your gear and found a good place — and you either have or can borrow some good bird dogs — you're ready to begin the hunt. Chasing quail with black powder shotguns is, I think, more fun despite some obvious handicaps. Sometimes you must literally wait for the smoke to clear before taking that second shot, and it does take more time to reload. With that in mind, may I offer some tips:

- » When shooting at multiple targets with a double barrel, I prefer to shoot at a trailing bird first so that, for the second shot, there remains a bird that is not obscured by smoke.
- » A word to the wise: you should also remain focused and take your time when reloading to eliminate mistakes, such as omitting a step or doubling up on one of the components.
- » When shooting at a moving target, keep follow-through in mind. There is a delay between the pull of the trigger and the ignition of the main charge. This is especially true of flintlocks.
- » After the hunt, you *must* clean the barrel of the muzzleloader! The sooner this is done, the better.

Special Cost-Share Opportunities for Habitat Restoration

Dwindling habitat has caused Missouri's quail populations to decline. Recently, however, the Department's Quail Focus Area

program has helped landowners living in identified areas restore native plants and escape cover. As a result, many of these landowners

have seen their quail numbers rise.

If your land lies within a Quail Focus Area, you may be eligible for enhanced incentives, including

cost-share opportunities and technical assistance. Visit mdc.mo.gov/node/3306 to see the Quail Focus Area map, then call your county private land conservationist to learn more.



Residue from the black powder or some of the substitutes combines with water in the air to form sulfuric acid, which, in time, will corrode and pit the barrel, rendering it worthless.

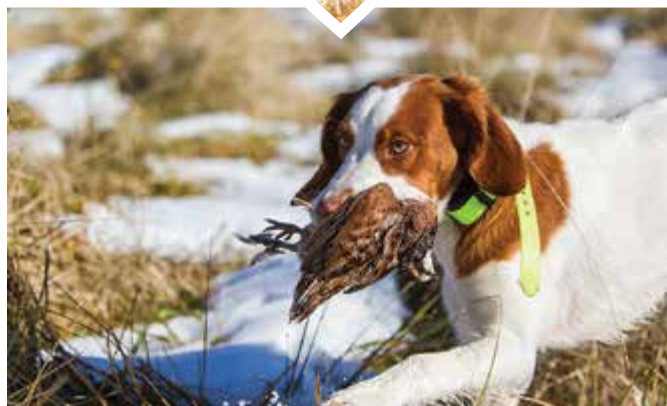
A Memorable Black-Powder Hunt

The four of us got started about 8:30 a.m., and the going was a bit tough through crunchy snow left from a snow-storm a couple of days prior.

Finding the quail was difficult. At times the footing was even more than difficult, especially when I took a gentle roll after losing my balance in order to maintain muzzle control and not plunge the gun barrel into a snow bank.

As noon approached, the temperature rose above freezing and the footing became more treacherous still. But it was really enjoyable watching the dogs work, and the excitement got cranked up a notch or two after Harry bagged the first bird. For good measure, a couple of clean misses followed. Unlike with clay targets, one can't always predict the path a flushed bird will take.

One of my fondest memories of this particular hunt occurred shortly after we bagged the last bird. As we were congratulating Harry for another great shot, and the dog for a good retrieve, we all heard a distinct gobble from nearby cover. No one uttered a word as we just looked at each other, smiling. Then again, another gobble echoed. We enjoyed that moment immensely for all of us were turkey hunters, and this treat in the dead of winter brought the promise of good hunting in spring.



Moments later we decided to call it a hunt, and a successful one at that. Nobody limited out, but all the shots were safe, all managed a shot or two, and the memories will last a long time.

The hunt pictured took place on Dec. 17, 2013, and I had the privilege of hunting alongside my good friend Harry Chapin, a relative of Ed Chapin, landowner of one of Missouri's few century farms, in Howell County. The Brittany spaniels, Bonnie, Sage, and Pearl, were owned and handled by Cory Purgason of Caulfield, and all contributed to lasting memories of black powder bobwhites. ▲

Larry Lindeman is a graduate of Missouri State University and a retired science teacher. He's been an outdoor skills specialist with the Department for almost 10 years, and, of course, he enjoys hunting, fishing, trapping, canoeing, and anything outdoors, as well as cooking and eating wild game.

Rusty Blackbird

A MALE RUSTY blackbird (*Euphagus carolinus*) forages bankside at Maramec Spring Park, near St. James. It was only by my forgetfulness that I was able to capture this image on a cold December day.

I had been photographing kingfishers all morning from a blind, and I decided to take a walk around the park in search of bald eagles and other critters. I stashed my gear under a bridge and began my walk. About an hour later, I decided to call it quits and headed to St. James for a late breakfast. Just as I pulled into town, I realized that I had forgotten my gear. Frustrated by my absent-mindedness, I turned around and headed back to Maramec Spring.

Upon return, I found the pile of equipment safe and sound where I had left it. I gathered it up and began walking back to my car at the park entrance. As I skirted the spring branch, I noticed some movement next to the water and saw that it was a lone rusty blackbird, searching for morsels next to a moss-covered riffle. I stowed my gear, for a second time, and ran back to my car to grab my camera, lens, and tripod. I knew there was a chance that the rusty might not wait for me, but it was worth a shot. When I finally made it back to the riffle, I found the busy blackbird right where I had left it, still foraging for insects next to the stream.

The rusty blackbird is an uncommon to rare winter resident, usually found near water, such as streams and wetlands, but it is also known to frequent fields and backyards when foraging with other species, such as grackles and cowbirds. In fall and winter, male rusties are distinguished by their rust-colored feather edges, pale yellow eyes, and tan eyebrows. While the male is dull black overall, the female is a lighter, gray-brown. Rusty blackbirds are often confused with grackles, which are larger with a longer tail.

Rusty blackbirds feed on insects, seeds, snails, and even small fish. I enjoy watching them flip leaves and detritus up in the air in an effort to reveal their prey. In east-central Missouri, where I do most of my photography, I've found rusties at Columbia Bottom Conservation Area, Riverlands Migratory Bird Sanctuary, Forest Park in St. Louis, and Maramec Spring Park. All of my encounters have been near water, and I've often photographed them in the water, sometimes in strong current. An intrepid little bird, rusties are undaunted by extreme conditions when searching for a meal.

I've been fortunate to observe and photograph rusty blackbirds in Missouri because the species is in rapid decline, to the consternation of birders and researchers alike. While factors such as habitat loss are suspected, the decline of the rusty blackbird is still under investigation. In the meantime, I'll keep my eyes open for more rusties and take every opportunity to share those encounters with others.

—Story and photograph by Danny Brown

📷 500mm lens + 1.4x teleconverter • f/5.6 • 1/320 sec • ISO 400

We help people discover nature through our online field guide. Visit mdc.mo.gov/node/73 to learn more about Missouri's plants and animals.





Little Sac Woods Conservation Area

Rooted in educating the public on proper forest management, this 772-acre area in Greene County offers a glimpse into ways that management benefits our woods.

ONCE KNOWN AS the Little Sac Woods Urban Forest, portions of the area were first acquired by the Conservation Department in 1979, and subsequent parcels were added to the area throughout the early 1980s. The Department originally established this area as a “metro forest,” a destination just northwest of Springfield that offered a look into the natural beauty of forests.

Since its inception, Little Sac Woods has served as an educational and demonstration area for an array of forest management practices such as timber stand improvement and regeneration harvests. Studies examining the effects of forest pests and tree growth have also been conducted there. The area has been used to help educate both the public and land managers.

Current management on the area is focused on the reconstruction of several large glade, woodland, and forest natural communities. Knowledge of historic land conditions, soils and topography, habitat indicator species, and natural disturbances such as fire and drought, combined with how wildlife uses these natural communities, guides reconstruction efforts. Wildlife habitat and overall plant diversity is maintained by thinning undesirable woody plants and conducting prescribed burns. Reconstructing glades and woodlands in this manner promotes healthier plant communities that can stand up to environmental stressors such as drought.

Roughly 7 miles of hiking trails amble through the area, passing a bluff-top glade overlooking the Little Sac River, areas of woodland



17–40mm lens • f/11 • 1/50 sec • ISO 800 | by Noppadol Paothong

restoration, and forested units. Access to the river provides limited fishing opportunities, and primitive camping is allowed throughout the area by obtaining a special use permit. Much of the forest management on the area promotes small game habitat, leading to excellent hunting opportunities for squirrels and rabbits. Little Sac Woods also supports a healthy turkey population.

Looking into the future, much of the area’s management will focus on controlling exotic invasive species, which threaten the survival of our native plants. Invasive plants such as sericea lespedeza, Japanese honeysuckle, and wintercreeper are currently managed on the area.

Little Sac Woods Conservation Area is located approximately 9 miles northwest of Springfield on Farm Road 115, off Highway 13 and Route BB.

—Brice Kelso, area manager



Little Sac Woods Conservation Area

Recreation opportunities: hiking, hunting, nature viewing, primitive camping, and limited fishing

Unique features: Reconstructed woodlands, glades, and bottomland forests, more than 7 miles of hiking.

For More Information: Call 417-326-5189 or visit mdc.mo.gov/a7940



MDC DISCOVER nature

To find more events near you, call your regional office (phone numbers on Page 3), or visit mdc.mo.gov and choose your region.

NATURE CRAFT NIGHT

DEC. 10 • WEDNESDAY • 6–8 P.M.

*Northeast Region, Northeast Regional Office,
3500 S. Baltimore, Kirksville, MO 63501
Registration required, call 660-785-2420
All ages, families*

A wide variety of natural items will be available to make into tree ornaments, gifts, or bird feeders, so bring your family to enjoy this night out together.

NATURE CENTER AT NIGHT: WINTER SURVIVAL PUPPET SHOW

DEC. 18 • THURSDAY • 5–8 P.M.

*Southeast Region, Cape Girardeau
Conservation Nature Center, 2289 County
Park Drive, Cape Girardeau, MO 63701
No registration, call 573-290-5218
for information
All ages, families*

Our furry, scaly, and feathered puppets will tell you all about their wintertime survival tactics. Shows start at 5:15 p.m. and 6:30 p.m. Youth and adult groups welcome.

BACKYARD BIRRRDS!

DEC. 20 • SATURDAY • 10 A.M.–2:30 P.M.

*Kansas City Region, Anita B. Gorman
Discovery Center, 4750 Troost Ave.,
Kansas City, MO 64110
No registration, call 816-759-7300
for information*

All ages

Winter is one of the best times to go bird watching. Join us as we learn about our winged friends. You will have the opportunity to learn birdcalls, identification techniques, make a feeder, and go on a bird-watching hike.

TRACKS AND SIGNS

DEC. 20 • SATURDAY • 1–2 P.M.

*Northeast Region, Northeast Regional Office,
3500 S. Baltimore, Kirksville, MO 63501
No registration required, call 660-785-2420
for information
All ages, families*

We may not always see wildlife when we take a nature hike, but we often see the tracks they leave behind. Learn to recognize some common tracks, practice identification on our nature walk, and make a track mold to take home.



IDEAS FOR FAMILY FUN

FAMILY CRAFT FUN

DEC. 20 • SATURDAY • 1–4 P.M.

*Southeast Region, Cape Girardeau
Conservation Nature Center, 2289 County
Park Drive, Cape Girardeau, MO 63701
No registration, call 573-290-5218
for information*

All ages, families

Bring your youngsters to make nature-related holiday crafts. We'll bring the supplies, you bring the enthusiasm!

HOLIDAY HAPPENINGS

DEC. 27 • SATURDAY • 10 A.M.–3 P.M.

DEC. 30 • TUESDAY • 10 A.M.–3 P.M.

DEC. 31 • WEDNESDAY • 10 A.M.–3 P.M.

*Central Region, Runge Conservation Nature
Center, 2901 West Truman Blvd., Jefferson
City, MO 65102*

*No registration, call 573-526-5544
for information*

All ages

Visiting with family and friends is an important part of the holidays. Many folks have made it a tradition to visit Runge Conservation Nature Center to enjoy a variety of programs and activities. We hope you are one of them. If not, start your tradition this year!

BURR OAK WOODS GAMES

DEC. 31 • WEDNESDAY • 9 A.M.–4:30 P.M.

*Kansas City Region, Burr Oak Woods,
1401 NW Park Road, Blue Springs, MO 64015
Registration required, call 816-228-3766
Ages 8–18*

You have been selected to participate in the fun-filled Burr Oak Woods Games. Your training will include Wilderness Survival, In Search of Food and Water, Finding Your Way, Tracking, Archery, and Primitive Hunting Skills. After roasting a hotdog for lunch, put your new skills to use in the Burr Oak Woods Nature Arena. May the odds be ever in your favor!

DISCOVER NATURE PHOTO CONTEST

Thank you to everyone who participated in our 2014 Discover Nature Photo Contest. All entries from the past year are available to view on our website at mdc.mo.gov/node/26255. We'll publish all of the monthly winners in the January 2015 issue of the *Conservationist*.



Subscribe online • mdc.mo.gov/node/9087 • Free to Missouri households



I Am Conservation

Howard Turner stands in a pasture with some of his cattle near Ellington, Missouri. Turner is one of the few farmers who live in the elk restoration zone, a 346-square-mile area in and around the Peck Ranch Conservation Area. Most of the land (79 percent) in the elk zone is public. When Turner heard about the Conservation Department's plan to restore elk to the area, he was all for it. He was also interested in habitat management assistance offered by the Department and called Private Land Conservationist Michael Gaskins to learn more. "Howard had already been establishing food plots and such," said Gaskins, "so we talked about more involved habitat practices such as open woodland management that could be done on his property, and this seemed to fascinate him." Gaskins said that future plans include a prescribed burn on the woodland stand to increase plant diversity on the woodland floor and forage for elk, deer, and other wildlife. Turner's pasture management program has encouraged high-quality forage in his fields that benefits his livestock as well as foraging elk. He hasn't seen any of the elk yet, but he knows they have been in his food plots. Turner thinks restoring elk is a good idea and an important heritage for his grandkids to inherit. "I would like the elk to get to a sizeable enough herd that we could hunt them," said Turner. —*photograph by David Stonner*